PRACTICAL 2

Objective

Create a class TwoDim which contains private members as x and y coordinates in package P1. Define the default constructor, a parameterized constructor and override toString() method to display the co-ordinates. Now reuse this class and in package P2 create another class ThreeDim, adding a new dimension as z as its private member. Define the constructors for the subclass and override toString() method in the subclass also. Write appropriate methods to show dynamic method dispatch. The main() function should be in a package P.

Code

First package(p1)

```java
package Dhruv_Java.p1;


public class twodim {
   private int x;
   private int y;
   public twodim(){
        this.x=0;
        this.y=0;
   }
   public twodim(int x,int y){
        this.x=x;
        this.y=y;
   }
   public String toString(){
        return ("Coordinates: x="+x+" y="+y);
   }


}
```

Second Package(p2)

```java
package Dhruv_Java.p2;
import Dhruv_Java.p1.*;
public class threedim extends twodim {
   private int z;
   public threedim() {
        super(0, 0);
```

```
        this.z = 0;
    }
   public threedim(int x,int y,int z) {
        super(x, y);
        this.z = z;
    }
    public String toString() {
        return super.toString() + " z=" + z;
   }
}
```

Main package(P)

```
package Dhruv_Java.p;
import java.util.*;
import Dhruv_Java.p1.*;
import Dhruv_Java.p2.*;
import Dhruv_Java.p1.twodim;

public class assignment{
public static void main(String[] args) {
twodim obj;
obj=new twodim(2,3);
System.out.println(obj);
obj=new threedim(2,3,6);
System.out.println(obj);
}
}
```

OUTPUT:-

```
└  /usr/bin/env /Library/Java/JavaVirtualMachines/jdk-18.jdk/Contents/Home/bin/java -XX:
+ShowCodeDetailsInExceptionMessages -cp "/Users/dhruvbhardwaj/Library/Application Support
/Code/User/workspaceStorage/81a628bfe3258a22828da2a913506cf4/redhat.java/jdt_ws/Dhruv_Cod
es_a8aa7ea0/bin" Dhruv_Java.p.assignment
Coordinates: x=2 y=3
Coordinates: x=2 y=3 z=6
```